D. Remarks

The specification is amended at paragraph 2, on page 1, to recite the full form of the abbreviation "SMB", in response to the Examiner's statement in paragraph 1 on page 2 of the Office Action mailed on March 7, 2003.

Claims 1-14 were rejected in the above-identified Office Action as being unpatentable over applicant's admitted prior art in view of Maloof. In making the rejection, the Examiner stated that Applicant's admitted prior art discloses a plurality of straight SMB jacks in rows and columns but does not disclose SMB plugs comprising a main body being angled/chamfered. The Examiner then cited to Maloof for disclosing a main body 28 that is rotatable and angled/chamfered. In making the combination, the Examiner stated that the motivation was "to further assist in reducing space usage" (see bottom of page 2 of the Office Action).

Applicant respectfully submits that the Examiner's argument is without merit at least because a skilled artisan would end up with a different result than the claimed invention if the Examiner's motivation is followed. Specifically, the Examiner appears to be stating that using an angled plug of the type disclosed by Maloof would further assist in reducing space usage. If a reduction in space usage motivates the skilled artisan (as stated by the Examiner), then that skilled artisan would end up using SMB plugs that are coaxial (i.e. where wire exits are inline with the main body) because such plugs require the least space on a printed circuit board (thereby to provide the greatest port density). Such coaxial SMB plugs are well known in the art, as stated in the background section on page 1 towards the bottom of paragraph [0002] in the originally-filed application. The Examiner has not explained why a skilled artisan when starting from a perpendicular SMB plug would be motivated to stop at **merely a partial reduction** in space usage obtained by an angled SMB plug when further space usage reduction can be easily obtained by using a coaxial SMB plug. Hence, the Examiner is respectfully requested to provide a fuller explanation, if the next action is other than a Notice of Allowance.

Applicant also submits that the Examiner has failed to cite any prior art reference in support of the Examiner-stated motivation, namely to further assist in reducing space usage. Specifically, Applicant requests the Examiner to clarify in the next action (if other than Notice of Allowance), as to where in the currently cited prior art is it stated that space usage needs to

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be reduced. Alternatively, the Examiner must cite a prior art reference in support of the Examiner's motivation.

Applicant respectfully draws the Examiner's attention to FIG. 6 in the attached Exhibit "A" which illustrates in a different way a geometry that is already shown inherently in originally-filed FIGs. 1 and 3. FIGs. 6 and 7 are not part of the originally-filed application, and are not being submitted as an amendment to the originally-filed drawings. Instead, FIGs. 6 and 7 are attached herewith primarily to explain to the Examiner the difference between the invention (FIG. 6) and the prior art (FIG. 7).

Referring to FIG. 6, when two identical connectors of the type being claimed are mounted close to one another, there is no interference between a convex portion 121 of one plug with a concave portion 122 of an adjacent plug. Applicant points out that interference is absent as long as diameter ØC of a tubular wire exit (illustrated in FIG. 6 by heavy angled lines) is smaller than a diameter ØB of a tubular main body (illustrated by heavy horizontal lines). When the just-described relationship is reversed (at the same pitch), interference occurs between adjacent connectors, as shown in FIG. 7. Therefore, Applicant submits that a tubular wire exit of diameter ØC which is smaller than diameter ØB of tubular main body provides an unexpected result when such connectors are mounted next to one another in a two dimensional array, namely elimination of interference shown in FIG. 7. Such elimination of interference allows an angled plug of such diameters to independently rotate without interfering with other identical angled plugs in a two dimensional array.

The above-described geometry is described and illustrated in the originally-filed specification as follows. Specifically, diameter ØC being smaller than diameter ØB is clearly illustrated in originally filed FIGs. 1 and 3, and this relationship is further described in the originally-filed specification as follows. Diameter ØC is described in the originally-filed specification for one embodiment as being 59% pitch which is clearly smaller percentage of pitch than a diameter ØB at 89% pitch:

> The main body is tubular and has a diameter that is approximately 89 percent of a pitch ... The wire exit is also tubular and has a diameter that is approximately 59 percent of the pitch. (see page 2, paragraph [0004])

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> Main body 102 has an outer diameter B and wire exit 114 has an outer diameter C. In one embodiment ... outer diameter B is at most 89% of a pitch P and outer diameter C is at most 59% of pitch P. (see page 4, paragraph [0016])

Above-described diameters of 89 percent of pitch and 59 percent of same pitch are also mentioned in the originally-filed abstract.

The above-cited paragraph, namely page 4, paragraph [0016] also states that "Pitch P is the smaller of a pitch P_X along the x-axis and a pitch P_y along the y-axis..." which is now a limitation recited in Claim 13. See page 2, paragraph [0004] for "two dimensional array."

Moreover, Applicant had originally mentioned using the above-described geometry to obtain a clearance between adjacent connectors, as follows:

> As can be seen in FIG. 3, adjacent plugs 100AB and 100AJ are separated by a clearance 200 between end surface 112 of plug 100AB and wire exit 114 of plug 100AJ **created from** angles A_b and A_c and diameters B and C. Thus each plug 100 can rotate at least 90° to the right or the left without interfering with adjacent plugs 100 in the same column. (see page 5, paragraph [0020]; emphasis added)

Regarding angles A_b and A_c, Applicant respectfully draws the Examiner's attention to paragraph [0014] at pages 3 and 4 wherein it is stated that these angles may be, for example, any value in the range 45° ± 20°. In one embodiment, both angles A are 45°, as noted in paragraph [0016] on page 4, in which case B and C may still be 89 percent of pitch and 59 percent of same pitch respectively.

In view of the above, Applicant respectfully submits that the originally-filed specification fully supports the amendments being made to the claims.

Applicant respectfully requests the Examiner to carefully review the amendment to Claim 13 and confirm on the record that no new matter is being added. Applicant submits that the amendment to Claim 13 merely makes explicit a feature that was already inherently illustrated in the drawings and described in the specification.

Claim 13 as amended is believed to distinguish over the teachings of Maloof for a number of reasons. For example, Maloof fails to disclose or suggest the mounting of his

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connector in a two dimensional array. Moreover, Applicant submits that even if Maloof's connector is mounted in a two dimensional array (assuming arguendo), then the smallest pitch that can be used in such an array is inherently limited by interference of the type shown in FIG. 7 in the attached Exhibit "A". Therefore, when Maloof's connector is mounted in a two dimensional array at the pitch recited in Claim 13, then it appears that Maloof's connector cannot be independently rotated without interfering with other plugs.

Also, Maloof's main body 28 is not angled/chamfered (contrary to the Examiner's statement, Maloof's item 28 is shown as a cylinder with two edges that are both perpendicular to the axis of the cylinder, with one edge shown between items 12 and 28 and another edge being shown between items 30 and 28). In contrast, Claim 13 clearly recites "the main body comprising a chamfered end surface."

Therefore, Claim 13 is believed to patentably distinguish over the combined teachings of Applicant's admitted prior art and Maloof for one or more of the above-discussed reasons.

On June 5, 2003, in a telephone conference with the undersigned, Examiner Hammond identified a new reference, namely U.S. Patent 6,350,147 granted to Brownell et al. Applicant submits that even Brownell fails to disclose or suggest the invention recited in Claim 13. For example, there is no suggestion whatsoever by Brownell that his plugs (1) are to be mounted in a two dimensional array, (2) can independently rotate without interfering with other plugs in the two dimensional array, (3) are tubular, and (4) have chamfered main body. For example, Brownell's main body 50 is shown in his FIGs. 3 and 4 as having an edge parallel to the free end surface, and not angled.

Moreover, any angled surfaces shown by Brownell appear to be unrelated to allowing plugs to independently rotate without interfering with other angled plugs in the two dimensional array as recited in Claim 13, at least because Brownell does not disclose or suggest rotation of a plug in a two dimensional array. For one or more of the above-discussed reasons, Claim 13 is believed to be patentable over the teachings of Brownell, either alone or in combination with Maloof and/or Applicant's admitted prior art.

Claims 14-19 depend from Claim 13 and are therefore also believed to be patentable for at least the same reasons as Claim 13. If the Examiner rejects Claim 13 in a future Office Action, Applicant respectfully requests the Examiner to provide a detailed explanation by identifying each limitation of Claim 13 in the cited prior art. In case of an obviousness

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rejection, the Examiner is further requested to cite a prior art reference (by identifying a column and line number therein) for the Examiner's motivation to make the combination.

Claim 9 is amended to explicitly recite a two-dimensional array. Applicant submits that there is no suggestion whatsoever in the teachings of Maloof and/or Brownell to perform the combination of acts recited in Claim 9. Claim 12 depends from Claim 9 and is therefore also patentable for at least the same reason as Claim 9.

If the Examiner rejects Claim 9 in a future Office Action, Applicant respectfully requests the Examiner to provide a detailed explanation by identifying each limitation of Claim 9 in the cited prior art. In case of an obviousness rejection, the Examiner is further requested to cite a prior art reference (by identifying a column and line number therein) for the Examiner's motivation to make the combination.

Applicant submits that all pending claims are in form for allowance, and allowance thereof is respectfully requested. Should there be any questions, please call the undersigned at (408) 982-8200, ext. 3.

via Express Mail Receipt No.
ER 205 700 393 US

Respectfully submitted,

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FIG. 6

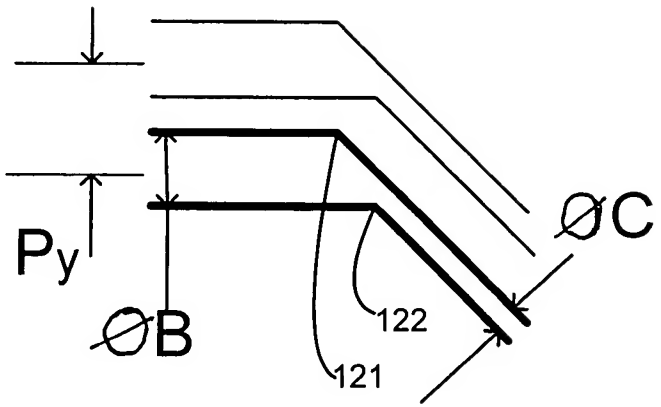

FIG. 7 (prior art)

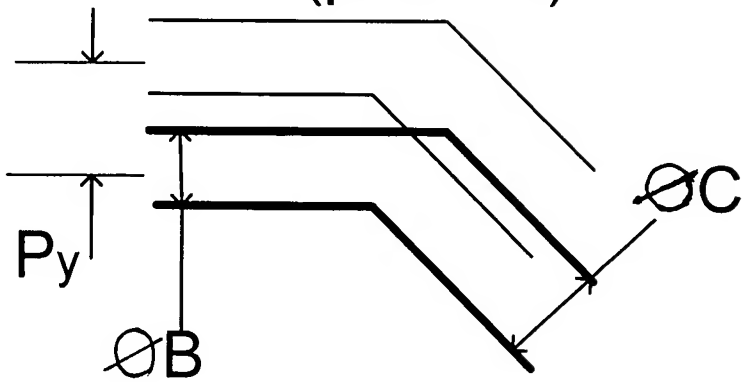

EXHIBIT "A"